LAS VEGAS

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Title: CONTAMINATION SURVEY OF YAGS 39; 40 (8/18/56)

LAS VEGAS Serial No: 109228

Pages: 9

Notes: RAD STATUS OF YAGS

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18 August 1956

MEMORANDUM

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From: Senior Survey Coordinator
To: Radiological Safety Officer

Subj: Contamination Survey of YAG-39 and YAG-40; report of

Ref: (a) NAVSHIPYD SFRAN INST 9900.1

Encl: (1) Radiological Contamination Survey - YAG-39 (plan view) Code 288 Sketch of 18 August 1956
(2) Radiological Contamination Survey - YAG-39 (profile View) Code 288 sketch of 18 August 1956
(3) Radiological Contamination Survey - YAG-40 (plan view) Code 288 Sketch of 18 August 1956
(4) Radiological Contamination Survey - YAG-40 (profile view) Code 288 Sketch of 18 August 1956

1. A survey of the radioactive contamination existent on the subject vessels was conducted after the arrival of the vessels on 16 August and continued on 17 August. Navy Model AN/PDR-27 radiac sets and commercial El-Tronics Model CP3D radiac sets (borrowed from NRDL) were used to determine radiation intensities and contamination concentrations. Removable contamination was measured by rubbing four sheets of tissue paper (toilet), suitably folded to form a small pad, over twelve square inches of contaminated surface. Removable contamination was measured by placing the wipe in close proximity to the end window of the AN/PDR-27 probe. Gamma radiation measurements were made at a distance of approximately three feet from the horizontal surfaces. Close readings, approximately one inch, were taken with the El-Tronics (shield removed) and open window probe of the AN/PDR-27 sets for beta measurements. Advance information concerning radiation intensities and contamination concentrations received from NRDL and other sources was of considerable help in conducting the radiological surveys of the vessels.

2. The following are the results of the surveys:

General.

ENCL (2) 2

1. The effort expended by radsafe and ships personnel to prevent spread of contamination to the interior spaces of the ships was highly successful. The average level of radiation intensity in the interior spaces of the ships, in the superstructure and below the main deck level, is less than 1.8 mr/hr, measured at a distance of three feet from the horizontal surfaces. Wipe tests indicated no appreciable removable contamination.

2. The decontamination work accomplished by ships forces and the painting of the weather deck surfaces has resulted in 'fixed' contamination (contamination has been covered over by the paint). This is particularly true on the boat decks and the helicopter landing platforms. Wipe testing revealed negligible amounts of removable contamination on the freshly painted surfaces.

3. The highest levels of radioactivity were found in overboard drains, scuppers, and in those areas normally considered inaccessible, such as under piping, in corners, in and around bracing for mechanical structures, etc.

4. No readings were taken on vertical structures beyond six feet above the horizontal surfaces on which located, (kingposts, antenna masts, booms, etc.). Also, no readings were taken on the hull surfaces. Only two protective coverings used by the tugs on bow puttings were contaminated beyond permissible limits; lines used by the tugs were not contaminated by the docking operations.

5. Monitoring of the shoes and personal effects of ships personnel at the gangway revealed that contamination existed only on the soles of the shoes. Readings of 1 mr/hr (AN/PDR-5 open-window probe in close proximity) were found on only two pair of shoes. Readings on the remainder were negligible. Readings on booties worn by shipyard monitors who conducted the survey were also negligible.

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YAG-39

1. Enclosures (1) and (2) show the radiological status of the weather deck areas of this vessel.

2. Weather deck surfaces forward of the deck house over Hold #3 have not been decontaminated by ships force. Radiation levels vary from 3.5 mr/hr to 35 mr/hr at a distance of three feet from the surfaces, and from 5 mr/hr to 400 mr/hr at close proximity. Evidence of coral particles (fixed contamination) which has collected in normally inaccessible areas such as corners, crevices, in and around metal bracing, under piping, around the underside of the Hold #2 hatch cover near the piping, etc., results in the high readings found.

3. The average level of radiation on the weather deck surfaces of the ship aft of the Hold #3 area are less than 2 mr/hr at three feet. Overboard drains and scuppers read somewhat higher.

4. Interior spaces of the ship all read less than 1.3 mr/hr, and removable contamination is negligible, with only one exception. The boiler casing space on the main deck inside the superstructure has two 'hot-spots', one forward and one aft of the stack. Readings to 20 mrep/hr were found, but not removable.

YAG-40

1. The weather deck surfaces of the ship have been washed down (decontaminated to an extent) and repainted. Wipe testing of these areas revealed negligible amounts of removable contamination.

2. Enclosures (1) and (2) show the radiological status of the weather deck areas of this vessel.

3. The average level of radiation from the helicopter landing platform forward, including the kingpost area, to the bow averages 5 mr/hr at three feet from the surfaces. Readings to 20 mr/hr and 150 mrep/hr were obtained at close contact in this area.

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4. The average level of radiation on the weather deck aft of the helicopter platform is less than 2 mr/hr. Overboard drains and scuppers read somewhat higher.

5. All interior spaces of the ship read less than 1.8 mr/hr, with wipe samples indicating no removable contamination.

3. Based upon the results of the radiological surveys, the following recommendations are made:

a. No protective clothing be required of personnel working in the interior spaces of the ships, unless they are working on the salt-water piping, the washdown system, air intakes for engine room and auxiliary engines, or on the YAG-39 entry into the boiler (stack) casing area.

b. Protective clothing be required for personnel involved in removal of equipment from weather deck areas, work on the hull, access to the area forward of Hold #3 on the YAG-39, sand-blasting, cutting, welding, burning, or chipping (any type of work which would remove the paint) on the weather deck areas of both ships, because of contamination contained by a generous application of paint. In this work, every effort should be made to confine the contamination to as small an area as practicable.

c. Because of the status of OPERATIONAL CLEARANCE, all personnel boarding the ship must be approved by the Medical Officer and wear a film badge.

d. Monitoring services will be required at the dockside to check equipment and material being removed from the ships.

e. For the purposes of a radiological safety check, the dockside monitor should monitor personnel not wearing protective clothing on a random basis, for evidence of contamination. (Personnel with extremely dirty clothing should definitely be checked.) All personnel wearing pro-

tective clothing shall be checked in the change station.

f. Any decontamination performed by ships forces will be witnessed by shipyard personnel to prevent runoff of contaminated liquids or the dumping of contaminated waste into the bay water at the dockside. All contaminated waste shall be disposed of in accordance with existing regulations.

g. Reference (a) shall be consulted for guidance as necessary.

h. Areas of radiation intensity and contamination in excess of permissible limits as indicated on enclosures (1) through (4) should be marked with appropriate radiological hazard markers.

4. These surveys of the vessels were conducted in accordance with the definition of "normally accessible areas". Areas not covered by the surveys will be monitored as necessary to establish safety precautions for personnel prior to work commencement.

/s/ J. P Fincutter

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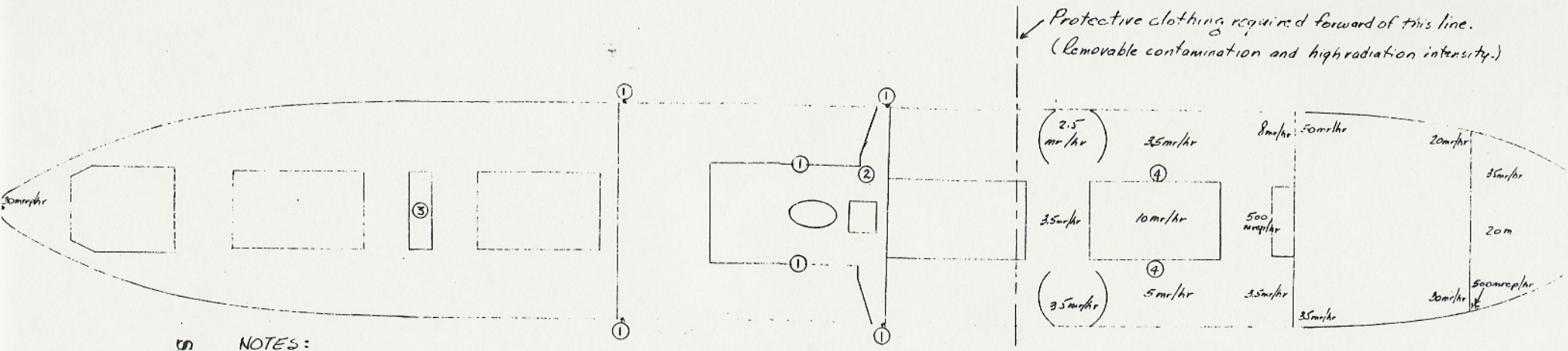
Code 251C
RadSafe Group File



NOTES:

① Overboard drains and scuppers - Average 1.5 to 5mr/hr at 3' & 3mr/hr to Off-scale(os) at close contact.

② Antenna Mast - Rusty wire cable - 150mrep/hr - (Should dispose of cable to reduce average level.)

③ Base of kingpost and boom area — 20 to 200 mrep/hr at close contact.

④ In and around piping in this Hold #2 area - close contact readings to 500 to 750mrep/hr.

RADIOLGICAL CONTAMINATION SURVEY

YAG 39

CODE 288 SKETCH 18 AUG 56

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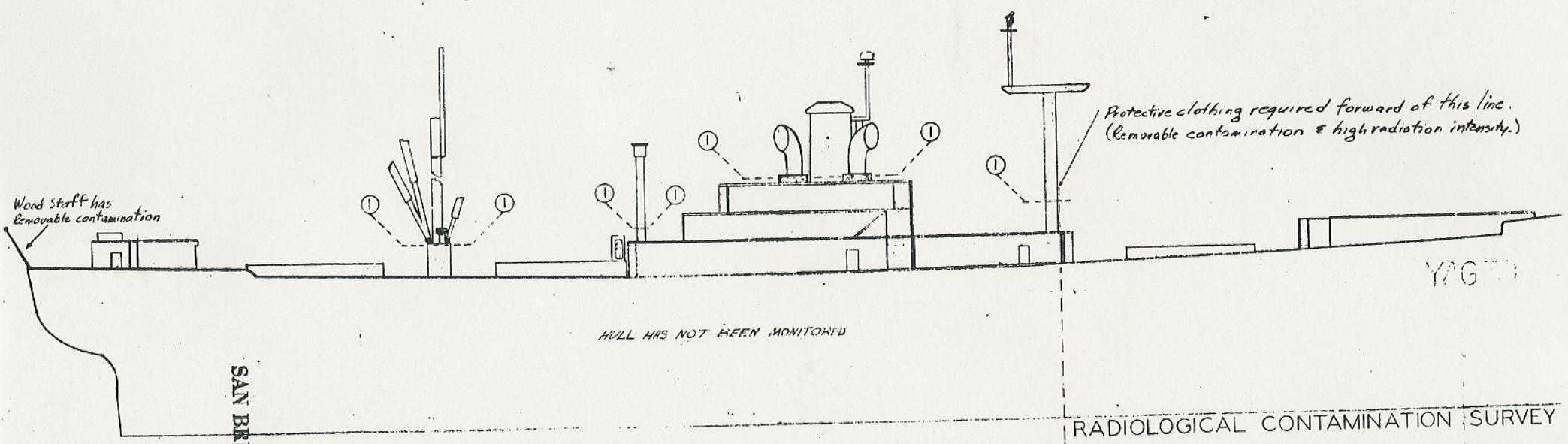

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NOTE

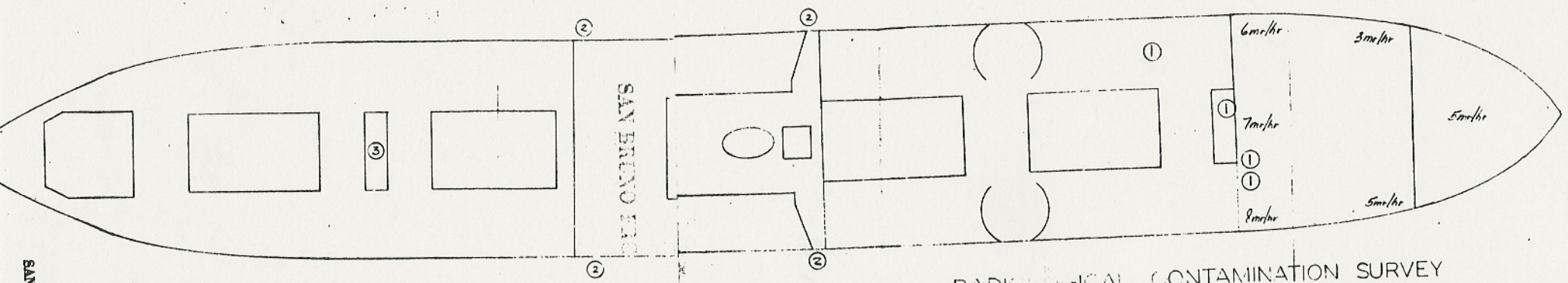
① Areas above these levels have not been monitored.

RADIOLOGICAL CONTAMINATION SURVEY

YAG 39

CODE 288 SKETCH 18 AUG 56

ENCL(2)



NOTES:

① Excessive removable contamination in the base of equipments at these locations on deck.
(Dosimeter 'men' - Sellers Unit - GITR station)

② Overboard drains and scuppers - 1.5mr/hr at 3' - 5+mr/hr (ow) close. (Pass aways - deck level)

③ Base of Kingpost and boom - readings to 120mrep/hr.

RADIOLOGICAL CONTAMINATION SURVEY
YAG 40
CODE 288 SKETCH 20 AUG 56
ENCL (3)

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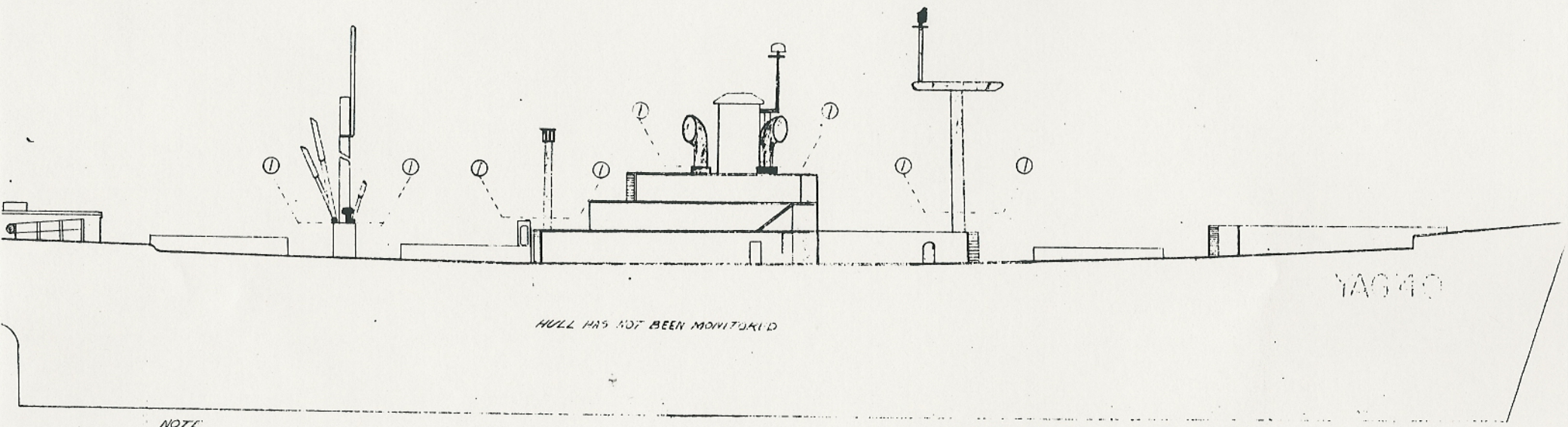

NOTE

① Areas above these levels have not been monitored.

RADIOLOGICAL CONTAMINATION SURVEY
YAG 40
CODE 288 SKETCH 20 AUG 56
ENCL (4)

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